

Remarks and Arguments

Claims 1-17 were presented for examination. Claims 1-9 and 11-17 have been amended. Claim 10 has been canceled and claims 18-28 have been added.

Claims 2-3, 9, 14 and 17 have been rejected under 35 U.S.C. §112, second paragraph, as indefinite because parent claim 1 claims a “temporary attachment” for a jaw implant, whereas dependent claims 2 and 14 recite specifics of the jaw implant body rather than the attachment. Further, dependent claims 9 and 17 recite specifics of a screw instead of the temporary attachment. In response, claim 1 has been amended to recite a “jaw implant” comprising an implant body, a screw and a temporary attachment. Thus, dependent claims 2 and 14 which recite specifics of the jaw implant body and dependent claims 9 and 17 which recite specifics of the screw now properly limit the claimed combination.

Claim 2 was also rejected under 35 U.S.C. §112, second paragraph, because the examiner found the recited terms “base” and “second side” to be unclear. In response, claim 2 has been amended to recite a “base part” corresponding to base part 16 disclosed in the specification in connection with Figures 1 and 2 and base part 37 shown in Figures 3 and 4. Claim 2 further recites that “the implant head has a shape and wherein the base part has a first surface shaped to fit closely to the implant head shape, and has a second surface in contact with the molded piece.” The base part and surfaces are disclosed, for example in the specification at paragraphs 21 and 30. It is believed that, as amended, claim 2 satisfies the requirements of 35 U.S.C. §112, second paragraph.

Claims 1-9, 11 and 14-17 have been rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 5,026,280 (Dürr.) The examiner comments that the Dürr reference discloses the recited elements.

As claimed, the invention functions to form soft tissue covering the jawbone during, or after, the healing phase of the implant to adapt the tissue to an implant superstructure before the latter is attached to the implant. At this stage, the implant is in a preparational stage during which the tissue surrounding the implant is adapted to the superstructure. The type and extent of this adaptation must be flexible and chosen according to the local requirements determined by the position of the implant in the

jawbone. In addition, the adaptation may be performed in steps, which occur weekly or once a month, in order to avoid tears in the tissue which may be a source of infection.

The Dürr patent discloses a dental implant which comprises an elastic intermediate element (18) arranged between a basic structure of the implant (10) and a denture (28). This intermediate element has an insulating or damping function for the forces to which the implant is exposed when the implant is in its regular operational position in the jawbone of a patient. An additional spacer element (12) is arranged in contact with the elastic intermediate element (18) and functions as a fastening element so that the damping function is separated from the fastening function. The Dürr patent does not deal with the problem of forming the soft tissue surrounding the implant before a superstructure is attached to the implant. Accordingly, a temporary attachment as provided by the invention is not disclosed in this patent nor does this patent disclose measures from which such temporary attachment could be derived.

These differences are set forth in the claims. Claim 1 is illustrative. It recites, in lines 13-19, a temporary attachment having a molded piece made of an elastic material. A screw passes through the molded piece and engages a threaded bore in the implant head to fasten the temporary attachment to the implant head. The molded piece is arranged to be deformable under the action of the screw and to transfer its deformation to surrounding jaw tissue.

The examiner claims that the elastic intermediate element (18) could function as the recited temporary attachment that is deformed under action of the screw (20). Presumably, the examiner is referring to the small material ring (24) of the element (18) that contacts the jaw tissue. It is clear that tightening the screw (20) cannot deform this small ring portion. In particular, the upper region of the element (18) has an enlarged bore (22), which has a much larger diameter than the external diameter of the post (20) as disclosed in Dürr at column 5, lines 46-48. Thus, the upper portion of element (18), (the portion above the ring (24)) does not engage the post as specifically set forth at Dürr, column 5, lines 60-64. Even the superstructure (28) is designed to move vertically on the post (20) as set forth at column 6, lines 7-13. Therefore, tightening the post (20) can only compress the lower portion of the element (18). However, the periphery of this lower portion is covered by a hollow portion of the spacer element (12)

so that any deformation of the element (18) cannot be transmitted to the surrounding tissue as recited in claim 1. Thus, no forming effect can be exercised on the gingival tissue. Consequently, claim 1 patentably distinguishes over the cited reference.

Claims 2-9, 11 and 14-17 are dependent, either directly or indirectly, on claim 1 and incorporate the limitations thereof. Consequently, they patentably distinguish over the cited Dürr patent in the same manner as claim 1.

Claims 10, 12 and 13 have been rejected under 35 U.S.C. §103(a) as obvious over the Dürr patent in view of U.S. Patent No. 4,552,532 (Mozsary). The examiner claims that the Dürr patent discloses all of the claimed limitations with the exception that it does not disclose that the recited head part comprises a plate through which the recited screw passes. However, the examiner asserts that the Mozsary patent discloses such a plate and concludes that it would have been obvious to combine Dürr with Mozsary to attenuate relative movement between the implant and superstructure as taught by Mozsary.

The Mozsary patent discloses a dental implant having a cushioning means (46) which is arranged between an implant root (12) and a post (34). The cushioning means comprises a resilient member (48), which consists of a first element (50) in form of a tube surrounding the post and a second element (52) which has the form of a plate. Both elements are not designed to be in contact with the gingival tissue. The first element is surrounded by the implant root while the second element is covered by a spacer (62), which consists of a first portion (64) and a second portion (66). Both portions insulate the second element (52) from the gingival tissue so that a substantial deformation of this element is prevented and, in particular, a predetermination of the type and extent of such deformation is not possible.

Thus, the proposed combination of Dürr and Mozsary cannot teach or suggest a molded piece that is arranged to be deformable under the action of a screw and to transfer its deformation to surrounding jaw tissue, as recited in claim 1, since neither reference discloses this element. Since claims 10, 12 and 13 are dependent on claim 1, they incorporate this element and, consequently, patentably distinguish over the cited reference combination.

New claims 18-28 have been added to more particularly point out the invention.

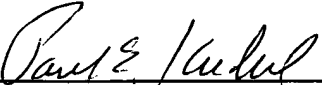
In particular, new claims 18-23 are directed to the embodiment shown in Figures 5 and 6. Independent claim 18 contains limitations similar to those recited in claim 1. For example, new claim 18 recites, in lines 7-14, a “temporary attachment having a head part; and a molded piece made of a biocompatible and elastic material, the screw passing through the head part and the molded piece and engaging the threaded bore to fasten the temporary attachment to the implant head, the molded piece being deformable when the screw is tightened and transferring its deformation to surrounding jaw tissue, wherein the implant head has a profile that predetermines the type of deformation of the molded piece, thereby forming the surrounding jaw tissue accordingly.” Thus, claim 18 patentably distinguishes over the cited Dürr and Mozsary references in the same manner as claim 1.

New method claims 24-28 recite, in lines 4-11, a method which includes the steps of: “(a) attaching a molded piece made of a biocompatible and elastic material to the implant body by means of a screw passing through the molded piece and engaging a threaded bore in the implant body, the molded piece fitting into a channel in the gingival tissue above the jaw implant body and contacting the gingival tissue surrounding the channel along the length of the channel” and “(b) tightening the screw to deform the molded piece thereby causing selective radial expansion of the gingival tissue surrounding the channel...” As discussed above, such steps are not possible in the cited Dürr and Mozsary references because any deformation of the disclosed elastic elements cannot be transmitted to the surrounding tissue. Thus, new claims 24-28 distinguish over the Dürr and Mozsary references in the same manner as claim 1.

In light of the forgoing amendments and remarks, this application is now believed in condition for allowance and a notice of allowance is earnestly solicited. If the examiner has any further questions regarding this amendment, he is invited to call

applicants' attorney at the number listed below. The examiner is hereby authorized to charge any fees or direct any payment under 37 C.F.R. §§1.17, 1.16 to Deposit Account number 02-3038.

Respectfully submitted

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